

**Patent Claims**

1. Water-dilutable polyurethane dispersions comprising structural units derived from polyisocyanates **A**, polyols **B** having a number-average molar mass  $M_n$  of at least 400 g/mol, compounds **D** that contain at least two groups reactive towards isocyanate groups and at least one group capable of anion formation, low molar mass polyols **E** that do not carry any further groups reactive towards isocyanate groups, compounds **G** that are monofunctional towards isocyanates or contain active hydrogen of different reactivity and that are different from the compounds **E**, characterised in that the polyols **B** contain a mass fraction of polycarbonate polyols **B1** of at least 85 %.
2. The water-dilutable polyurethane dispersions according to claim 1, characterised in that they additionally comprise structural units derived from low molar mass polyols **C** with  $M_n$  of less than 400 g/mol
3. The water-dilutable polyurethane dispersions according to claim 1, characterised in that they additionally comprise structural units derived from compounds **H** that are different from **B**, **C**, **D**, **E** and **G** and contain at least two groups reactive towards NCO groups.
4. The water-dilutable polyurethane dispersions according to claim 1, characterised in that the polycarbonate polyols **B1** have a number-average molar mass  $M_n$  of from 400 g/mol to 5000 g/mol and a hydroxyl number of from 30 mg/g to 280 mg/g.
5. The water-dilutable polyurethane dispersions according to claim 1, characterised in that there

are used as component **B1** only difunctional polycarbonate polyols **B1**.

6. The water-dilutable polyurethane dispersions according to claim 1, characterised in that up to 5 % of the mass of the polycarbonate polyols **B1** are trivalent or higher-valent polycarbonate polyols.
7. The water-dilutable polyurethane dispersions according to claim 1, characterised in that the polycarbonate polyols **B1** contain only terminal OH groups.
8. The water-dilutable polyurethane dispersions according to claim 1, characterised in that the polycarbonate polyols **B1** are polycarbonates of aliphatic linear, branched or cyclic alcohols **B11** having from 2 to 40 carbon atoms and of alkylene ether alcohols having from 2 to 4 carbon atoms in the alkylene group and from 4 to 20 carbon atoms in total.
9. The water-dilutable polyurethane dispersions according to claim 1, characterised in that the polycarbonate polyols **B1** are derived from mixtures of alkylene ether alcohols and alpha,omega-dihydroxyalkanes.
10. The water-dilutable polyurethane dispersions according to claim 1, characterised in that component **B** comprises further polyols selected from the group consisting of polyether polyols, acrylate polyols and polyolefin polyols.
11. Coating compositions comprising water-dilutable polyurethane dispersions according to claim 1.